WHAT IS CLAIMED IS:

1. A heat exchanger device comprising:

a heat exchanger core having opposed first and second core plates, a stack of parallel spaced inner plates between said first and second plates with spaces between said inner plates defining alternate flow passages for hot and cold fluids,

a first core retaining plate affixed to one face of said core after said core has been constructed and tested for leaks, said first core retaining plate having opposed end portions extending beyond the ends of said core and having a first pair of flow apertures at preselected precise positions in relation to flow line connectors to which the device is connected,

a second core retaining plate affixed to an opposite face of said core after said core has been constructed and tested for leaks, said second core retaining plate having first and second end portions extending beyond the ends of said core with a pair of apertures at preselected precise positions in relation to flow line connectors to which the device is connected for fluid flow,

first end wall portions connected to said first and second core retaining plates at one end of said core forming first flow compartments to pass fluid toward and away from said core and through one each of said first and second pairs of apertures, and

second end wall portions connected to said top and bottom core retaining plates at an opposite end of said core forming second flow compartments to pass fluid toward and away from said core and through one each of said other of said first and second pairs of apertures.

2. A device as set forth in claim 1 wherein

said device has selected dimensions between the center lines of said apertures of each of said core retaining plates longitudinally of said core and selected dimensions between the center lines of said apertures of said core retaining plates laterally of said core.

3. A device as set forth in claim 1 including a flow connector connected to each of said apertures and extending transverse to an associated core retaining plate.

4. A device as set forth in claim 3 wherein each of said flow connectors includes a tubular portion fastened to an associated core retaining plate and a flange portion having apertures for fastening to flow line connectors to which the device is connected.

5. A device as set forth in claim 3 wherein said flow connector extends into an associated of said apertures and is welded thereto.

6. A device as set forth in claim 1 wherein each of said inner plates is in the form of a thin flat rectangular heat-conductive sheet having a downwardly inclined end section along about one half the width of said plate and an upwardly inclined end section along about the other one half the width of said plate at one end together with on upwardly inclined end section along about one half the width of said plate and a downwardly inclined end section along about one half the width of said plate at the other end of said plate, each said next lower plate being turned end for end with the one above to form diagonally extending flow passages between said plates.

7. A device as set forth in claim 6 wherein

opposite of said end sections have flat terminal sections that butt against one another to form an end closure along about one half the width and a flow opening along about the other half the width of successive layers of said plates.

8. A device as set forth in claim 7 including a pair of longitudinal edge spacers disposed between and extending along the edges of said inner plates to separate said inner plates.

9. A device as set forth in claim 8 wherein alternate of said edge spacers are staggered at the ends to extend the full length of said plates and to fit between said inclined end sections that are closed by said flat terminal sections.

10. A device as set forth in claim 7 wherein said butting terminal sections are welded together.

11. A device as set forth in claim 1 wherein each of said inner plates has a preselected pattern of indentations that provide strength, spacing between plates and agitation to fluid flow.

12. A heat exchanger device comprising:

a heat exchanger core having opposed first and second core plates, a stack of parallel spaced inner plates between said first and second plates with spaces between said inner plates defining alternate flow passages for hot and cold fluids,

each of said inner plates being in the form of a thin flat rectangular heat-conductive sheet having a downwardly inclined end section along about one half the width of said plate and an upwardly inclined end section along about the other one half the width of said plate at

one end together with on upwardly inclined end section along about one half the width of said plate and a downwardly inclined end section along about one half the width of said plate at the other end of said plate, each said next lower plate being turned end for end with the one above to form diagonally extending flow passages between said plates, and

a pair of end connectors at each end of said core to pass fluid toward and away from said core in a straight line direction longitudinally of said core.

13. A device as set forth in claim 12 including a pair of straight on end connectors secured to the ends of said core to conduct fluid toward and away from the ends of said core in a direction longitudinally of said core.

14. A method of making a heat exchanger comprising the steps of:

providing a heat exchanger core having a first plate, second plate, a stack of parallel spaced inner plates between said first and second defining passages for hot and cold fluids,

adding first and second core retaining plates to said core after said core has been built and tested for leaks, said first and second core retaining plates having flow openings at preselected precise positions in opposed end portions of the plates to locate exchanger flow line connectors attached to said first and second plates precisely in line with equipment flow line connectors to which the device is attached, and

providing first and second end wall portions associated with said opposed end portions of said first and second core retaining plates to form first and second flow compartments that conduct fluid toward and away from said core and through said pairs of

apertures and said exchanger flow line connectors.

15. A method as set forth in claim 14 including the step of directing the flow path in a diagonal direction between said plates.

16. A method as set forth in claim 14 including the step of connecting the fluid flow into said core in a direction transverse to the ends of said core.

17. A method as set forth in claim 14 including the step of connecting the fluid flow into said core in a straight in line direction into the ends of said core.

18. A method as set forth in claim 14 including the steps of welding said inner plates at the ends in forming said core and welding said core retaining plates to opposite faces of said core.

19. A method as set forth in claim 14 including the step of welding said inner plates together at the ends.